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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/891,534	06/27/2001	Jeong Hyun Kim	8733.469.00	3209

30827 7590 03/10/2004

MCKENNA LONG & ALDRIDGE LLP
1900 K STREET, NW
WASHINGTON, DC 20006

EXAMINER	
TON, MINH TOAN T	
ART UNIT	**PAPER NUMBER**
2871	

DATE MAILED: 03/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/891,534	KIM ET AL.
	Examiner	Art Unit
	Toan Ton	2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-6,8-19 and 22-51* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-6,8-19 and 22-51* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, *"the light emitting layer is **direct contact** with the first substrate"* must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. Claims 1, 3-4, 11-19, 30-37 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims *"the light emitting layer is **direct contact** with the first substrate"* contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim Rejections - 35 USC § 103

3. Claims 1, 3-6, 8-19 and 22-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yokoyama et al (US 6507379)

Yokoyama discloses a liquid crystal display device comprising: a liquid crystal panel having a liquid crystal layer sandwiched between a pair of substrates; an organic EL element disposed outside the surface of one of the substrates. See at least Figure 4.

Yokoyama discloses the organic EL element comprising a dielectric multi-layer film 121, a transparent electrode 123, a reflecting electrode 126, a hole transport layer 124, an organic luminescent layer 125.

The limitations not explicitly disclosed by Yokoyama are the use of thin film transistors, the substrates performing polarization function, the first substrate in direct contact with the light emitting structure.

The use of thin film transistors is common and known in the art for several advantages such as cross-talk reduction. Therefore, it would have been obvious to one of ordinary skill in the art to employ thin film transistors for advantages such as cross-talk reduction.

Yokoyama discloses the device comprising a polarizer disposed on each of the substrates. It is known and a common goal in the art to minimize components, thus resulting in several advantages such as a thinner display, which is accomplished by eliminating extra layers. Forming a substrate and a polarizer as a single layer that perform the functions of both with only one layer. Therefore, it would have been obvious to one having ordinary skill in the art to combine the substrate and the polarizer into a single layer (that performs the functions of both) for several advantages such as thinner display.

It has been known in the art that gap(s) existing between layers yields disadvantages such as parallax effect, and thus it has been known in the art to art to minimize or eliminate such gap. Therefore, it would have been obvious to one of ordinary skill in the art to employ the substrate of the LCD panel in direct contact with the light emitting structure for advantages such as reducing parallax effect.

The use of an organic material (e.g., polycarbonate, polyimide) for the substrate is common and known in the art for several advantages such as high flexibility, lighter-device. Therefore, it would have been obvious to one having ordinary skill in the art to employ an organic material (e.g., polycarbonate, polyimide) for the substrate for several advantages such as high flexibility, lighter-device.

The use of color filters is common and known for achieving a color display device. Therefore, it would have been obvious to one having ordinary skill in the art to employ color filters for achieving a color display device.

The use of a black matrix is common and known for advantages such as good resolution. Therefore, it would have been obvious to one having ordinary skill in the art to employ a black matrix for advantages such as good resolution.

The use of other light emitting structures such as LED is an obvious (i.e., not distinct) variation to one of ordinary skill in the art.

4. Claims 1, 3-6, 8-19 and 22-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okibayashi et al (US 5504599) in view of Yokoyama et al (US 6507379).

Okibayashi discloses a liquid crystal display device: a liquid crystal panel having a liquid crystal layer sandwiched between a pair of substrates; an EL element disposed outside the surface of one of the substrates. See at least Figures 1(1) and 1(2).

Okibayashi discloses the substrates comprising materials such as high molecular compound film.

The limitations not disclosed by Okibayashi are thin film transistors, organic EL element and the substrates performing polarization function.

Per the use of thin film transistors, see detailed explanations of above.

EL devices employing inorganic materials yield several disadvantages such as high driving voltages (see col. 1, lines 47-57 of Yokoyama). Therefore, it would have been obvious to one of ordinary skill in the art to employ organic EL element for advantages such as low driving voltages.

The use of a polarizer is common and known in the art for advantages such as high contrast. It is known and a common goal in the art to minimize components, thus resulting in several advantages such as a thinner display, which is accomplished by eliminating extra layers. Forming a substrate and a polarizer as a single layer that perform the functions of both with only one layer. Therefore, it would have been obvious to one having ordinary skill in the art to combine the substrate and the polarizer into a single layer (that performs the functions of both) for several advantages such as thinner display.

Per "direct contact", see detailed explanations above.

Per the use of a black matrix, see detailed explanations above.

Per the use of the use of color filters, see detailed explanations above.

Response to Arguments

5. Applicant's arguments filed 02-24-04 have been fully considered but they are not persuasive.

Applicant's arguments are as follows:

(1) Neither reference discloses the substrates performing polarization function.

(2) Neither reference discloses the first substrate in direct contact with the light emitting layer.

Examiner's responses to Applicant's arguments are as follows:

(1) It is known and a common goal in the art to minimize components, thus resulting in several advantages such as a thinner display, which is accomplished by eliminating extra layers. Forming a substrate and a polarizer as a single layer that perform the functions of both with only one layer. Therefore, it would have been obvious to one having ordinary skill in the art to combine the substrate and the polarizer into a single layer (that performs the functions of both) for several advantages such as thinner display.

(2) It has been known in the art that gap(s) existing between layers yields disadvantages such as parallax effect, and thus it has been known in the art to art to minimize or eliminate such gap. Therefore, it would have been obvious to one of ordinary skill in the art to employ the substrate of the LCD panel in direct contact with the light emitting structure for advantages such as reducing parallax effect.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Contact Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan Ton whose telephone number is (571) 272-2303.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

March 2, 2004

TOAN TON
PRIMARY EXAMINER